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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,380	04/24/2001	Albert E. Seaver	56433USA1A.002	5859

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Office of Intellectual Property Counsel
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EXAMINER	
KOCH, GEORGE R	
ART UNIT	PAPER NUMBER
1734	6

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/841,380	SEAVER ET AL.	
	Examiner	Art Unit	
	George R. Koch III	1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-59 is/are pending in the application.

4a) Of the above claim(s) 1-32 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 33-59 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3,4,5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-32, drawn to a method, classified in class 427, subclass 458.

   II. Claims 33-59, drawn to an apparatus, classified in class 118, subclass 629.

2. The inventions are distinct, each from the other because of the following reasons: Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can carry out another and materially different process such as transferring all rather than a portion of the coating. The method can be carried out by another and materially different apparatus such as one where the drops are applied through a mask onto a grounded non-conducting transfer surface prior to transfer, or electrostatically applying the droplets to anon-liquid wetted conductive substrate. The apparatus also requires structural elements not in the method, e.g., ganged array of sprayers, plural circulating transfer devices, etc.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Brian Symanski on 8-01-2002 a provisional election was made with traverse to prosecute the invention of II, claims 33-59. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-32 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. The term "suitable" in claim 38 is a relative term which renders the claim indefinite. The term "suitable" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

11. Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether applicant intends to claim a plurality of electrostatic spray head IN ADDITION to the first cited electrostatic spray of claim 33, or intended to claim that the electrostatic spray head of claim 33 is a plurality of electrostatic spray heads.

12. Claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. The term "is improved" in claim 44 is a relative term which renders the claim indefinite. The term "is improved" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

14. Claims 50 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The definition of the substrate in claim 50 does not further limit the apparatus of claim 46. Is the applicant claiming that the substrate is part apparatus?

15. Claim 57 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

16. The term "thereof" in claim 57 is a relative term which renders the claim indefinite. The term "thereof" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The claim has been examined as if it recited electronic film or component.

17. Claims 51, 52 and 54-57 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The method steps of claims 51, 52, and 54-57 do not further limit their parent claims. These limitations merely identify an intended use by defining the substrate. Is the applicant claiming that the substrate is part apparatus?

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in-
> (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
> (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

19. Claims 33-35, 37, 38, 43, 51, 52, 54, and 56-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakajima et al (US Patent 4,847,110).

Nakajima discloses a conductive transfer surface (item 20) which transfers a portion of the coating to a substrate (see figure 6, and structures 22 and 23), and an electrostatic spray head (item 21) got applying the coating composition to the conductive transfer surface (see also column 11, lines 7-24).

As to claims 34 and 35, Nakajima discloses that the transfer surface rotates (column 11, lines 24-32), and that the surface is a cylinder (i.e., a drum).

As to claim 37, Nakajima discloses that the transfer surface is grounded (column 11, lines 17-20).

As to claim 38, the electrostatic spray head of Nakajima is capable of producing a line of charged droplets.

As to claim 43, the relationship of rolls 20 and 24 is functionally a nip roll since the substrate passes between these two rollers.

As to claims 51, 52, 54, 56, and 57, Nakajima's apparatus is capable of acting on the substrates claimed. As to claim 51, Nakajima can use an insulative substrate, which further as to claim 52 can be made of plastic. As to claim 54, Nakajima can be used with a porous substrate. As to claim 56, Nakajima is capable of being used with a woven or unwoven web. As to claim 57, Nakajima is capable of being used with a substrate that is an electronic film, component, or precursor thereof.

As to claim 55, Nakajima is capable of using a liquid for coating wherein the liquid for coating does not substantially penetrate the porous substrate.

As to claim 58, Nakajima discloses that the conductive transfer surface is grounded and is capable of being used with coatings and substrates such that substantially none of the charges generated by the electrostatic spraying device are transferred to the substrate.

As to claim 59, the apparatus of Nakajima appears capable of transferring drops in the sizes claimed.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

22. Claims 36, 42 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima as applied to claims 33-35 above, and further in view of Booth ("Evolution of Coating", from applicant's IDS, Paper #2, 9-10-2001).

As to claim 36, Nakajima does not disclose using a belt as the transfer surface.

Booth discloses using a belt an multiple transfer drums to transfer the coating liquid to the substrate (see page 37 to page 39, and Figures 40 and 41). Booth discloses that the steel belt is particularly well adapted to applying coatings to porous materials wherein a minimal "combining" pressure is needed (page 38, lines 7-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention with a desire to coat porous substrates to have added a belt for the transfer mechanism as suggested by Booth in the overall system of Nakajima in order to reduce damage to the substrate.

As to claims 42 and 53, Booth discloses the use of multiple transfer surfaces (such as in Figures 30, 31, 32, 33 and 34, see pages 30-33) to meter the coating. Booth discloses that such multiple transfer surfaces are useful for maintaining coating

weight control and uniformity (see page 30, lines 12-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to used a plurality of circulating transfer surfaces wherein the coating is transferred from a first surface to a second transfer surface as disclosed in Booth in order to maintain coating weight control and uniformity.

23. Claims 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima as applied to claim 33 above, and further in view of Neidich (US Patent 2,833,666).

As to claim 38, Nakajima, while disclosing the use of a single electrostatic spray head to produce a line of charge droplets, does not disclose the alternative embodiment of a series of spray heads ganged or grouped together to apply the coating to the transfer substrate.

Neidich discloses using multiple applicator nozzles to apply the coating liquid to the transfer surface, which thereupon applies the coating to the moving substrate. One in the art would appreciate that the use of multiple applicator nozzles allows for the treatment of a wider substrate, thus improving the efficiency of the application operation. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized multiple applicator nozzles such as in Neidich in the overall apparatus of Nakajima in order to improve efficiency and improve production speed.

As to claim 39, Nakajima and Neidich as applied in claim 38 above are capable of applying one or more coating compositions to one or more lanes.

As to claim 40, Nakajima and Neidich as applied in claim 38 above are capable of applying a plurality of compositions to one lanes, by placing both compositions in the spray head.

As to claim 41, Nakajima and Neidich as applied in claim 38 above are capable of applying coating compositions to a plurality of lanes.

24. Claims 44-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al as applied to claim 33 above, and further in view of Massey (US Patent 2,105,488).

Nakajima discloses only one device that contacts the coating of the substrate (see Figure 6, items 27a, 27b and 27c).

Nakajima does not disclose two or more pick and place devices that can periodically contact and re-contact the wet coating at different positions on the substrate, wherein the periods of the devices are selected so that the uniformity of the substrate is improved.

Massey discloses two or more pick and place devices that can periodically contact and re-contact the wet coating at different positions on the substrate, wherein the periods of the devices are selected so that the uniformity of the substrate is improved (see items 58-63 and items 52-56, and especially page 3, lines 31-66). Massey discloses that the rolls are of different diameter so that ridges will not be formed upon the surface of the coating film. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated the rolls of

different diameter as in Massey in the overall apparatus of Nakajima in order to provide for a coating film of uniform thickness and reduced ridges as suggested in Massey.

As to claim 45, Massey discloses that at least one of the pick-and-place devices includes a roll (see Figures, items 58-63 and 52-56).

As to claim 46, Massey discloses three or more pick-and-place rolls.

As to claim 47, Massey discloses that the rolls have different diameters.

As to claim 48, Massey discloses that one of the rolls (item 73) is undriven.

As to claim 49, Massey does not disclose that all of the rolls are undriven. However, the examiner takes official notice that it is well known and conventional to have all the rollers undriven and merely rotating as the web moves through them. One would appreciate that such a mechanism would reduce the complexity of the overall apparatus. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have all the rollers as undriven as in conventionally known in order to reduce the complexity of the system.

As to claim 50, Massey discloses that the apparatus is being used with a substrate that comprises a moving web, and that the rolls rotate with the web. Massey is further capable of being used with a substrate that is a rotating endless belt.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (703) 305-3435 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and

giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

George R. Koch III
August 20, 2002

RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
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